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Notes on training for rifle fire in trench warfare

Army War College (U.S.), United States. Army ...

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NOTES

ON

TRAINING FOR RIFLE FIRE IN TRENCH WARFARE

COMPILED FROM FOREIGN REPORTS

ARMY WAR COLLEGE
APRIL, 1917

FROM COL. JOS. P. FINLEY U.S. ARMY,
OFFICER IN CHARGE MILITIA AFFAIRS,
GOVERNMENT BOARD N. Y.

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WAR DEPARTMENT,
WASHINGTON, *April 24, 1917.*

The following Notes on Training for Rifle Fire in Trench Warfare are published for the information and guidance of all concerned.

[2582933, A. G. O.]

BY ORDER OF THE SECRETARY OF WAR:

H. L. SCOTT,
Major General, Chief of Staff.

OFFICIAL:

H. P. McCAIN,
The Adjutant General.

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TRAINING IN THE USE OF THE RIFLE FOR TRENCH WARFARE.

1. Training in the use of the rifle includes that of the bayonet. Fire action is alone treated in this paper, instruction in the use of the bayonet having already been discussed elsewhere.

2. The rifleman in the trenches, no less than in the open, requires as preliminary preparation the courses of individual and combat instruction prescribed in the Small Arms Firing Manual. The object of this paper is not to supersede any portion of this manual, but to supplement it by stressing those features of trench rifle fire that the experience of actual war has shown to be possessed of an importance that was not fully appreciated when the manual was prepared. So far as rifle fire exclusively from trenches is concerned, the importance of *individual aimed fire* up to the range of 400 yards is the principal feature that has been so developed by the peculiar conditions prevailing on the "western front" during the present European war, and the training that needs to be stressed naturally comes under the head of "individual instruction." There is also a second feature, essential to efficient *collective* firing either from trenches or in the open, that has never received the attention in our authorized manuals that its importance merits, though that importance has long been recognized and has been ably treated at the School of Musketry. It is that of the *necessity for satisfactory working methods of describing targets.* The growth of this necessity has been coincident with the development of fire discipline, direction, and control.

3. The special importance of individual aimed fire in trench warfare has been developed in Europe during the present war in connection with what is there termed "sniping," which has become a specially important and highly technical service, though it is merely a development of what has long been known and practiced in the United States under the name of "sharpshooting." A consideration of some of the conditions under which "sniping" is conducted will assist in emphasizing its importance and in indicating the special qualfications and instruction essential to efficiency.

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4. In modern trench warfare, as it exists in Europe to-day, each belligerent occupies a system of trenches, of which the foremost, or fire trenches, are frequently separated by only a few yards, and rarely by more than four or five hundred yards. In rear of the fire trenches there is a labyrinth of cover, approach, support, reserve, and other trenches. Each system is strengthened by obstacles, the most formidable and also the most common of these are the barbed-wire entanglements. These trenches and obstacles are being continually damaged by the opposing artillery fire, and every opportunity is seized for raiding enemy trenches through the openings so made. One of the important functions of the sniper is that of protecting his own trenches from enemy raids and his comrades from fire of snipers and the prevention of repair of enemy trenches and obstacles in order to keep the road open to raids from his own side. To these ends he endeavors to meet with a bullet every exposure of even a few square inches of the head or limb of an enemy and at the same time to conserve his own life. To attain the first object, that of hitting the enemy, requires the best possible facilities for observation and fire, coupled with special qualities and technical skill on the part of the sniper. The attainment of the second object, that of conserving one's own life, will depend largely upon the judgment and skill displayed in selecting and concealing the position of the firer. Each of these requirements calls for special training and for special qualities inherent in the sniper. To the training and skill of the expert game shot must be added the craftiness of the poacher.

5. From the preceding paragraphs it is evident that the service of sniping can not be conducted in a haphazard way, but, on the contrary, requires for its efficient conduct a carefully selected, organized, equipped, and trained personnel.

(*a*) *Organization.*—Based upon the best available information from Europe, there should be organized in each battalion of Infantry a "sniping" group composed of 1 noncommissioned officers and 24 privates.

(*b*) *Qualifications governing selections.*—Each member of the sniping group should be a well-trained, intelligent, disciplined soldier; a dead shot at short and mid ranges; brave, yet cautious; cool, observant, patient, resourceful, and prompt. In addition to the above, the noncommissioned officer in command of the group should be a competent instructor in all that is included in the training of the sniper and should possess good judgment in the selection and preparation of snipers' posts.

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(*c*) *Training.*—In addition to the preliminary training contemplated in (*b*), the following features should be specially developed:

Rifle practice.—The sniper must become expert in a broader sense than is implied by the word as employed in ordinary marksmanship classification. Ordinarily his target will be a small and fleeting one, and his training should be such as to enable him to quickly and accurately deliver a single shot at objects varying from a 4-inch loophole at 100 yards to those the size of a man's body at 800 yards. The small object at short range will be the most frequent target and indicates the most important rifle training. The character of the target emphasizes the importance of extreme accuracy of fire, and accuracy of fire implies, in addition to correctness of aim, correct knowledge of range, a correct knowledge of external influences, such as light, heat, moisture, wind, and the personal equation of the firer and the rifle. The sniper must continually practice both with the military sights and with the adjuncts supplied him and under conditions closely resembling those that will obtain in actual trench work. The importance of concealment will usually result in fire being delivered from rest, and the handling of the rifle must not be accompanied by exposure of his position. The soldier who has been thoroughly trained in the courses prescribed in the Small Arms Firing Manual will have no difficulty in improvising firing exercises with small bobbing or disappearing targets that will develop skill along the lines indicated above. In every exercise the judgment of the firer should be expressed as to the influence of a cold piece, a hot piece; clouds, heat, moisture, wind; a worn rifle; fouling; recent cleaning and oiling, or whatever existing condition may exert an influence on the path of the bullet. The estimation of ranges and their determination by use of range finders should form an important part of the training of a sniper.

Reconnaissance and *scouting.*—Under this head is included all manner of observation with a view to obtaining information. The sniper's field of action will be limited, but within its sphere it will be governed by the same principles that are prescribed for reconnaissance parties and scouts, and will include the intelligible rendering of reports.

To this end the sniper must be trained in the reading of maps, the making of sketches, the use of the prismatic compass, the simpler and more common conventional signs, and the rendering of both verbal and written reports. That the subject

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may not seem too large and formidable to him, his instruction should be progressive and as simple as possible, with due care to impress him with the necessity for everything he is required to do. The American soldier will rarely fail to respond if he can see the reasonableness of the demand made upon him. Let him see that his own life and that of his comrades may depend upon the accuracy of his knowledge of the following:

1. The location of our own front line and that of the enemy, so far as they are within his visual range.

2. The location of any known or suspected enemy sniper's posts, machine-gun emplacements, observation posts, listening posts, command stations, or probable routes of advance.

3. The location and importance of dominating points in either line.

4. The importance of being able to pick out on the ground any points of special importance or danger indicated on sketches or maps turned over to him, and to determine from maps drawn to scale the ranges to such points.

5. How to find his way by the aid of a map or sketch from his post to any specified point in our own trenches, and back again.

6. The importance of being able to intelligibly record and graphically represent matters of importance to his commanding officer or to the sniper who is to relieve him. In this connection the special importance of exact truth in statements of fact, and of the careful separation of matters of fact from those of mere report or conjecure, should be duly stressed. Hearsay and conjecture are often of great importance, but should be transmitted as such, and in the case of conjecture the reasons therefor should be stated.

The above are simply a few instances to suggest to the instructor how to go about the matter of instruction. Many men will be already familiar with the subject, and the method may be abridged, but in the case of an entirely uninstructed man a step-by-step method of instruction must be followed. The training should be such that it will be an entirely natural matter for the sniper to observe and report as to:

1. The attitude of the enemy (whether aggressive, alert, active, etc.).

2. Description of enemy seen, uniform, arms, etc.

3. Any new work evident; such as trenches and obstacles strengthened, new emplacements, etc.

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4. Position of machine guns, observation posts, sniper posts, etc., discovered.

5. Points in our own lines found to be specially dangerous, and points of enemy line that menace them.

6. Routes known to be used by the enemy.

7. Routes of patrols.

8. Points where ammunition or supplies are believed to be dumped.

9. Ranges to prominent or important points. This information will be less likely to mislead if the following rules are observed:

Carefully indicate the point from which each range is taken.

Use prominent, easily identified landmarks as reference points.

Indicate by whom and how ranges were determined.

10. Report any repairs needed in trenches or obstacles.

11. Position of suspected mines.

6. *Equipment.*—Telescopes, rather low power, are preferable to field glasses for observation and reconnaissance. Care must be taken to render them as inconspicuous as possible and prevent their location by the enemy through reflection of light from the object glass.

Telescopic periscope.

Rifle rest.—Various sorts have been devised, usually not merely to serve the purpose of a rest, but to expedite resumption of aim and change in direction or elevation.

Telescopic sights.

Sniperscope.—(A device for aiming with the head below the line of sight. Reports indicate that with this device the tendency is to shoot high, and that they are only reasonably accurate up to ranges of 200 yards. They are usually used over parapets, between sandbags. Proper adjustment is essential and great care necessary to prevent derangement.)

Steel helmet and mask.

Maps, sketches, note-book, message blanks, pencils, pocket knife.

Each post should have a range chart for use of all reliefs.

The above is additional to the normal equipment of the soldier.

7. *Duties of commander of sniping group:*

(*a*) Training of snipers and maintenance of efficiency.

(*b*) To supervise the work of his unit.

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(*c*) Responsibility for care of equipment.

(*d*) To receive and transmit to the proper authority all information turned over by the posts he relieves and by his own posts.

(*e*) To select the positions for sniper's posts and supervise the construction of loopholes and other special arrangements when not already provided.

A SNIPERSCOPE.

8. *Location of sniper's posts.*—Though engaged in trench warfare snipers are not invariably located in trenches. When not so located the sniper will avail himself of such cover as best suits his purpose. If practicable he will so dress himself as to blend with his surroundings, giving particular attention to his face and hands. Masks of inconspicuous color are sometimes worn. He must study the maps and the ground and endeavor to determine in advance good localities for observation and good lines of approach. His line of retreat must also be decided on as early as possible. The arts of the deerstalker and poacher, or those practiced in our early Indian troubles will be of great use under these circumstances, as his success will

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depend largely upon his patience and cunning. Houses and other buildings should be viewed with distrust, as they may be closely observed by the enemy. Trees will also receive this scrutiny. The best cover will be that which is least likely to be suspected of affording concealment for a man.

Sniper's positions in trenches may, according to circumstances, be located in (*a*) the front line, (*b*) parados, (*c*) approach trenches, (*d*) connecting trench, (*e*) dummy trench, (*f*) support

THE SNIPER WITH TELESCOPIC SIGHT. HIS OBSERVER WITH PERISCOPE.

trenches, or any others affording the desired facilities. The commander must study the terrain, the enemy's trenches, the advantages and disadvantages of each position considered, both with reference to facilities for observation, fire, and concealment, and with reference to danger from the enemy, and select that which will best serve the purpose. He must then decide as to measures for promoting observation and concealment, and supervise their execution and the construction of the necessary loopholes. Loopholes may be arranged of sandbags, iron pipes,

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boxes, etc. It is better to have them run obliquely rather than perpendicularly with respect to the trench line, and a curtain

A PREPARED SNIPER POSITION. A SNIPER USING A SNIPERSCOPE.

should be provided to prevent their being discovered by light showing through the hole. Loopholes near the ground are not as readily seen as those higher up, and those located among

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débris and loose earth, leaves, branches, tumbled sods, etc., are less easily detected than those located in a smooth slope. When constructing loopholes care should be taken to disturb previously existing conditions as little as possible lest the enemy observe the change and profit by the hint. Several loopholes should be provided for each post as the discovery of one by the enemy renders it worthless for future use, and continued use of one loophole will sooner or later result in detection.

The best positions are usually in rear of the first line, so placed as to command a view of the enemy's trenches up to at least 400 yards. This is not always possible and the best possible must be selected. In any case alternative positions must be arranged. Support trenches may afford better locations than the fire trenches, but they have the objection of increasing the range. If the post is detached an important consideration is whether or not it can be entered or left unobserved during daylight.

9. *Conduct of the sniper.*—Snipers should work in pairs, exchanging duties of observer every 15 or 20 minutes. They should be relieved every two hours or oftener. It may be advantageous to relieve one every hour.

They will never fire merely to annoy, as this will lead to disclosure of the position, with no adequate result. They will closely examine their shelter and see that the fire opening is so constructed as not to be affected by the blast of the rifle. If shooting through a small aperture in brickwork, the opening should be kept wet to prevent dust being blown out by the discharge. Newly constructed loopholes should be left unused for a time, so as to see if the enemy has detected it. The curtain will always be kept in such position as to prevent light showing through. Snipers must not be led by ruses to fire fruitlessly and disclose their positions. Fire to kill. If a large target is discovered, do not fire if it is possible to inform the machine guns or the artillery. Search constantly for machine guns and snipers; smash his periscopes.

Attacks will afford great opportunities for the sniper, as the enemy will then not be so alert for them, being busy with other matters. Less caution will therefore be necessary. From a position on a flank or anywhere that he can fire without interference with our own men, he selects the most useful targets, such as machine-gun men, officers and noncommissioned officers, snipers, artillery observers, etc. He closely observes the flanks,

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which are favorite places from which to break up an attack, and endeavors to forestall the enemy's fire. If the attack succeeds, he covers the working parties during the organization of the captured trench and watches for evidences of an intended counterattack. If this is made, he fires on the enemy as he shows himself in the approach trenches, picking off leaders when possible.

Much night work for snipers will rarely be advantageous. The targets are then practically limited to patrols and sentries, and there is great danger of firing into our own men or being fired on by them. The flash of the rifle will disclose the position if care is not taken to conceal it. Avoid the enemy's listening posts. Learn the hours at which the enemy repairs the gaps in his obstacles or parapets and watch for him.

10. *Description of targets.*—In paragraph 2 reference was made to the necessity for a satisfactory working system for designating or describing targets. One of our present embarrassments lies in the multiplicity of methods and the incident confusion in the mind of the soldier. Another source of error lies in the tendency of men to fancy that the *ears* of listening soldiers take in and digest a description as rapidly as the *eye* can travel from point to point. The ear, as compared with the eye, is very slow. The immediate deduction from this is that descriptions must be shorn of all unnecessary words, and that they must be as simple and clear as possible. It also emphasizes the advantage of following so far as practicable fixed methods of expression. Recruits should be taught the general plan followed in describing targets in order that they may waste no time from lack of comprehension of the relation of the different elements of the description or the terms employed.

The use of a single form will not suffice, since in some cases the target is so evident that no mistake can be made, and the simple designation such as "That troop of white-horse cavalry, range 1,000 yards," will identify it beyond all question; while in other cases the particular target may be so obscure and liable to confusion with other targets that a reference point and some system of coordinates must be employed.

In general, targets with reference to their designation will fall under the following heads:

(*a*) Those that stand out so plainly that there can be no possibility of doubt as the target meant.

(*b*) Those that are plainly visible, but are liable to be confused with other targets of a similar nature and range.

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(*c*) Those less distinctly visible and more difficult to pick up on account of peculiar background, confusion with other objects, etc.

(*d*) Targets visible only through field glasses, and that may or may not present the additional difficulties of danger of confusion with other objects.

Case (*a*) has already been referred to. The system consists in the simple announcement of: 1. The objective. 2. The range.

Ingenious people sometimes combine horizontal and vertical clock systems in designating a target whenever possible to do so, but this is a violation of the rule of simplicity and should never be done unless evidently necessary. The mere fact that it is necessary or desirable to use a reference point does not in all cases require use of both systems, as the reference point may be so evident that no clock coordination is necessary. When such designation *is* necessary, the horizontal clock face is used in coordinating the reference point and the vertical clock face for locating the subsequent points.

11. Instruction in target description is simple but must be thoroughly understood. An illustration by means of case (d) will cover the entire subject so far as necessary.

(*a*) Explain to the recruits the use of the horizontal-clock system as a means of indicating directions. Inform them that they are, in this system, *always* at the center of the dial. Call out various hours and require each recruit to extend his arm in the direction he understands is indicated. Explain and correct errors.

Explain the use of the vertical clock system, impressing the recruits with the fact that in this system the *reference point* is always at the center of dial. Call out an hour and require the recruit to name some object that is located on the hand of the clock at the designated hour. A diagram on paper may be of assistance. Explain and correct errors.

Explain to the recruit that the angle subtended by the width of one finger at arm's length from the eye and that subtended by the leaf of the rear sight to his rifle at 14 inches from the eye has a chord 50 yards long at 1,000 yards distance. The finger width and the sight leaf thus become known as units, and either may be used in indicating distances laterally.

Having selected a reference point, name some object near it and require the recruit to tell you how many units (*fingers* or *sight leafs*) apart they are.

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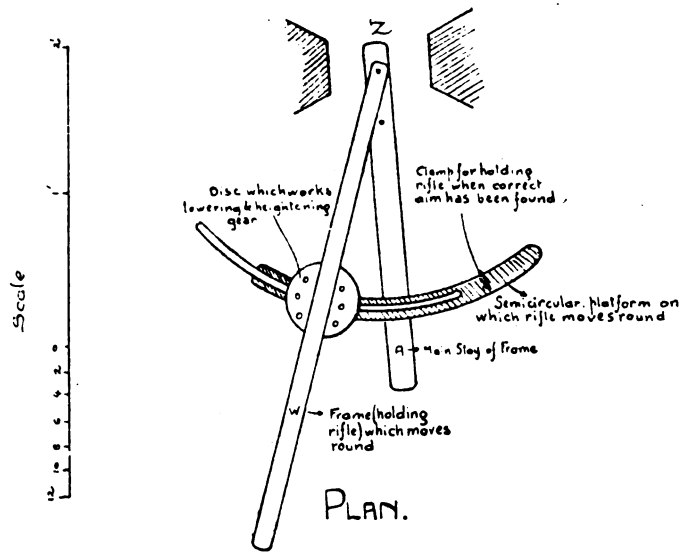
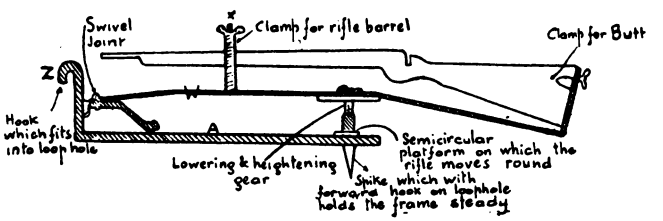
SKETCH SHOWING GERMAN FIXED RIFLE REST FOR FIRING THROUGH LOOP HOLES.

(Captured at the Bluff.)

NOTE.—Both lateral and horisontal movement is given and the rifle can be very firmly clamped when the required aim is found.





SECTIONAL ELEVATION.

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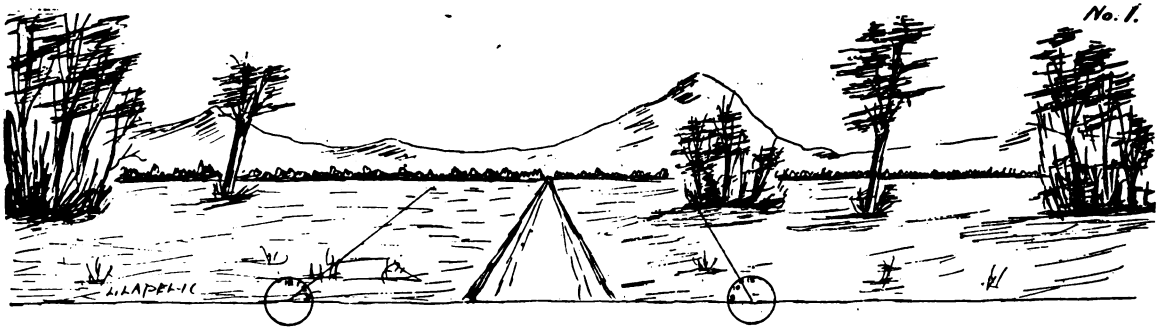
CASE (B).



HORIZONTAL CLOCK-FACE SYSTEM (USED WHEN TARGETS ARE VISIBLE).

SYSTEM.	EXAMPLE.	EXAMPLE.
1. Announce direction	Target 2 o'clock	Target 11 o'clock.
2. Announce objective	A hostile patrol	A hostile patrol.
3. Announce range	Range 1,000	Range 900.

PROCEDURE.

1. All look along the line pointing toward the indicated o'clock of a horizontal clock face whose center is at the firing point and whose 12 o'clock mark is directly perpendicular to the firing line.
2. Look for the objective at—
3. A point on this line at a distance equal to the designated range.

NOTE.—The clock here represented must be considered as horizontal, not vertical as shown. For the purpose of illustration perspective was not considered. The observer occupies the center of clock.

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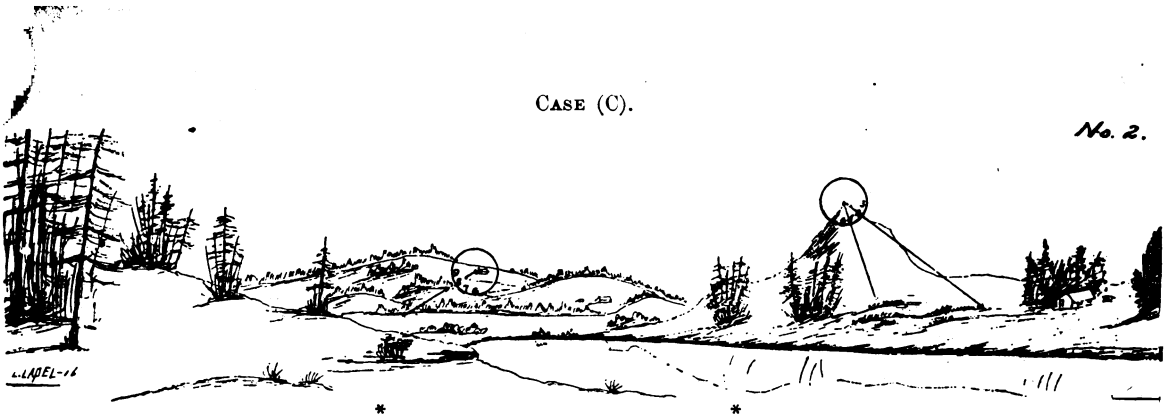
CASE (C).

No. 2.



* Observer's position. A.

* Observer's position, B, C.

VERTICAL CLOCK-FACE SYSTEM (USED WHEN TARGETS ARE SMALL OR INDISTINCT).

SYSTEM.	EXAMPLE A.	EXAMPLE B.	EXAMPLE C.
1. Announce the general direction of the reference point	Reference point at 12 o'clock	Reference point to our right front	Reference point to our right front.
2. Announce the reference point (the most prominent object in the zone indicated).	Single house with 2 chimneys	High peak	High peak.
3. Announce position of target with respect to reference point	Target at 8 o'clock	Target at 5 o'clock	Target at 4 o'clock.
4. Announce the objective	Machine gun	A hostile patrol	A hostile patrol.
5. Announce range	Range 1,000	Range 900	Range 800.

PROCEDURE.

1. All men look in direction indicated by 1.
2. Reference point is found in the indicated direction.
3. A clock face (vertical) is imagined centered on reference point and look along the line through the indicated o'clock, and
4. Find the objective at —
5. ..... yards from the firing line.

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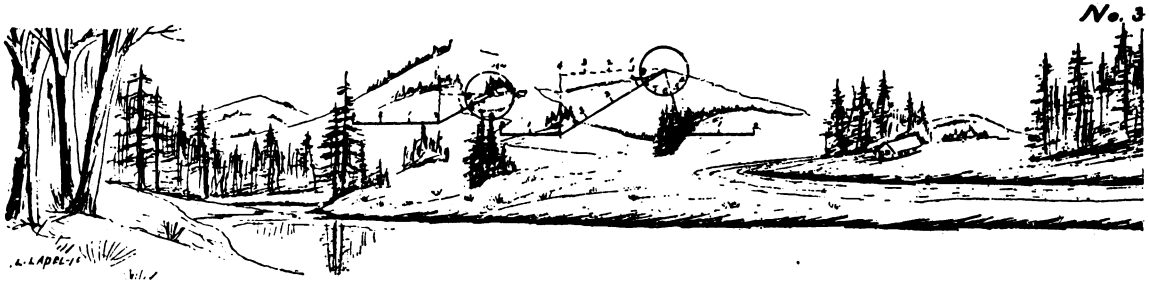
CASE (D).



Observer's position, A. • • Observer's position, B, C.

SIGHT-LEAF, FINGER, OR UNIT SYSTEM.

(When targets are indistinct or invisible, and to define sectors.)

SYSTEM	EXAMPLE A.	EXAMPLE B.	EXAMPLE C.
1. Announce direction of reference point using horizontal clock system if necessary.	Reference point at 12 o'clock.....	Reference point at 1 o'clock...	Reference point at 1 o'clock.
2. Announce reference point	House, with fence around it, on hill	Distant hill.....	Distant hill.
3. Announce position of target with respect to the reference point.	Target, 8 o'clock 2 units.....	Target, 8 o'clock 4 units.....	Target, 5.30 o'clock.
4. Announce the objective.....	Line of intrenchments, 3 units.....	Skirmish line, 2 units	Skirmish line, 2 units.
5. Announce the range.....	Range, 900	Range 800.....	Range 1,000.

NOTE.—"Units" mean 50 mils=finger=sight-leaf. It is usual to indicate in this system the point of the target *nearest* the reference point.

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When he is fairly familiar with the use of the horizontal and the vertical clock system for indicating directions, and with the use of fingers and sight leaf for measuring lateral distances from a reference point, work him up from simple to difficult examples of target designation.

With case (*d*) as an illustration, call the *direction* of the reference point. See that all look in the right direction. *Name* the reference point. Require it to be indicated on paper, *at the center of a clock dial.* Call, "Target 8 o'clock." Have a line drawn from the center of the dial in the proper direction. Announce, "Four units." Have these estimated by fingers and with the sight leaf in the proper direction and endeavor to then locate some object that should serve as a check on the work. Continue similarly with the actual announcement of the character of the target: "Skirmish line, etc."

It may sometimes be advantageous to indicate the range and have the sights set before describing the target, as men frequently lose the target while their eyes are off it in sightsetting.

The training necessary to make a "war shot" does not stop with making the recruits skillful in shooting. Other qualities must receive attention and be developed. This is accomplished in his other drills.

His development into a war shot must be systematic and progressive. In the diagram this idea is carried out.

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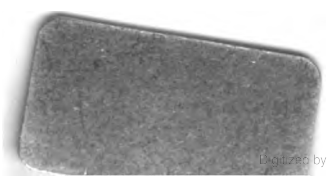

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